

IN THE SPECIFICATION:

After the title please insert the following sub-title and paragraph:

CROSS REFERENCE TO RELATED APPLICATIONS

This application claims the benefit of PCT Application No. PCT/CH2004/000586, filed on September 16, 2004 and Swiss Patent Application No. CH-1582/03, filed September 16, 2003, the disclosures of which are herein incorporated by reference in their entirety.

Please insert the following heading prior to paragraph [0001]:

FIELD OF THE INVENTION

Please amend paragraph [0001] as follows:

[0001] The invention concerns a method and an apparatus for the measurement of the layer thickness of the powder coating on a work piece ~~according to claims 1 and 11.~~

Please insert the following heading prior to paragraph [0002]

BACKGROUND OF THE INVENTION

Please insert the following heading prior to paragraph [0016]:

SUMMARY OF THE INVENTION

Please amend paragraph [0017] as follows:

[0017] This object is solved by the apparatus ~~according to claim 1.~~ having a sensor with a plurality of senders of measuring beams and a plurality of receivers for measuring beams reflected from the coating layer and/or from the work piece. The senders and the receivers at the sensor are arranged in intermixed condition with one another. A computer generates a continuous measuring signal in dependence on the two parameters of the emitted and received measuring beams.

Please amend paragraph [0019] as follows:

[0019] In regard to the given object ~~[[an]]~~ another embodiment ~~according to claim 2~~ has the senders and receivers lying next to one another and collectively positioned in groupwise fashion. Each group has associated with it its own source of measuring beams and has associated with it its own detector for the beams reaching the receivers. Each group has associated with it its own computer for forming a measuring signal. Such an embodiment makes possible a recognition of only small deviations from the desired condition of the coating layer. Accordingly, since the senders and receivers are fixed into position groupwise, and since each group produces its own measuring signal, there also results in the case of small deviations a sufficiently strong deviation in the reflected beams for a reliable evaluation. Problems regarding the processing of weak signals, for example, because of the signal to noise relationship, are avoided.

Please amend paragraph [0021] as follows:

[0021] According to another embodiment ~~claim 5~~, the apparatus of the invention is integrated in the powder arm of a can welding machine and can reliably and continuously test the thickness of the powder layer over the welding seam along its entire length (the very end regions of the welding seam at the beginning and at the end of the can body are beaded during the rolling of the bottom and the cover of the can and are of minor significance). A fouling of a sensor is hindered or done away with by a seaming covering arrangement, ~~according to claim 11~~, preferably by means of a directed cleaning air stream.

Please insert the following heading prior to paragraph [0022]:

BRIEF DESCRIPTION OF DRAWINGS

Please amend paragraph [0025] as follows:

[0025] Fig. 3 shows an enlarged cross-section through the apparatus of the invention on the line 33 ~~[[AA]]~~ of Fig. 1; and

Please insert the following heading prior to paragraph [0027]:

DESCRIPTION OF PREFERRED EMBODIMENTS

Please amend paragraph [0032] as follows:

[0032] Figure 3 shows a cross sectional portion of the powder arm 4 taken on the line 33 [[AA]] of Figure 1. The welding seam 41 is indicated by the thickened spot in the body 12 and is covered by the powder layer 40. The cover 35 is advantageously removably held in place by screws at the places indicated by the broken lines 42. The opening 46 defines the effective area of the sensing segments 30, 31, 32 and is made to be somewhat narrower than the width of the powder layer 40. A sealing element 42 is flush with the wall 43 of the opening 36 and thereby through the opening limits sharply the effective area of the sensor 20 as made up by its sensing segments.